

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A signal transmission system ~~(1) having~~
~~comprising:~~
_____a signal source device ~~(2) that is arranged to generate for~~
~~generating~~ a transmission signal, ~~having:~~
5 _____a signal sink device ~~(4) that is arranged to process for~~
~~processing~~ the transmission signal, ~~;~~ and ~~having~~
_____transmission means ~~that are provided between and coupled~~
~~to~~ the signal source device ~~(2) and the signal sink device (4),~~
~~that can be coupled to the signal source device (2) and the signal~~
10 ~~sink device (4) for the transmission of signals, and that are~~
~~arranged to transmit~~ said transmission means ~~transmitting~~ a signal
representing the transmission signal from the signal source device
~~(2) to the signal sink device (4), characterized in that the signal~~
source device ~~(2) is arranged to emit~~ emits an optical signal ~~(S)~~
15 ~~that represents the~~ ~~representing the generated~~ transmission signal
generated, ~~in that the signal sink device (4) is arranged to~~
~~receive~~ receives the optical signal ~~(S) emit~~table emitted by the
signal source device ~~(2), and in that the transmission means are is~~
formed by light-guiding means ~~(7) that are able to be coupled~~
20 ~~optically coupled~~ to the signal source device ~~(2) and the signal~~
sink device ~~(4) and that are arranged to transmit for transmitting~~
the optical signal ~~(S) from the signal source device to the signal~~
~~sink device.~~

2. (Currently Amended) ~~A The~~ signal transmission system (1) as claimed in claim 1, characterized in that, ~~at least one of the~~ signal source device (2) and the signal sink device (4), ~~at least one of the two said devices~~ is arranged at a distance from the light-guiding means (7) and is coupled to the light-guiding means (7) via an air-gap (10, 11).

3. (Currently Amended) ~~A The~~ signal transmission system (1) as claimed in claim 1, characterized in that the light-guiding means (7) ~~are~~ is of a multi-fiber form.

4. (Currently Amended) ~~A The~~ signal transmission system (1) as claimed in claim 1, characterized in that, ~~at least one of the~~ signal source device (2) and the signal sink device (4), ~~at least one of the two said devices~~ is arranged for fastening to a garment (15), and in that the light-guiding means (7) ~~are~~ is arranged for fastening to ~~a the~~ garment (15).

5. (Currently Amended) ~~A The~~ signal transmission system (1) as claimed in claim 4, characterized in that the light-guiding means (7) ~~have~~ comprises fastening means (18) for fastening ~~the light-guiding means~~ to ~~a the~~ garment (15).

6. (Currently Amended) ~~A The~~ signal transmission system (1) as claimed in claim 1, characterized in that, ~~at least one of the~~

signal source device (2) and the signal sink device (4), at least one of the two said devices is arranged for fastening to a garment (15), and in that the light-guiding means (7) form a part of a the garment (15).

7. (Currently Amended) A The signal transmission system (1) as claimed in claim 1, characterized in that the light-guiding means (7) have comprises at least one light exit region (9) arranged for optical coupling to the signal sink device (4), which said at least one light exit region (9) is arranged to emit emitting the optical signal, said at least one light exit region having a (S) and is of light-scattering design and by means of which it is possible for for scattering the optical signal (S) emerging from the light-guiding means (7) to be scattered into an area of space directed towards the signal sink device (4).

8. (Currently Amended) A The signal transmission system (1) as claimed in claim 7, characterized in that at least one light exit region of the light-guiding means (7) are arranged to be is planar in form in their light exit region (9).

9. (Currently Amended) A The signal transmission system (1) as claimed in claim 1, characterized in that the light-guiding means (7) have comprises at least one light entry region (8) arranged for optical coupling to the signal source device (2), which said at least one light entry region (8) is arranged to receive receiving

the optical signal ~~{S}~~ and ~~has and having~~ a light-collecting design₇ and ~~by means of which it is possible for enabling~~ the optical signal ~~{S}~~ entering the at least one light entry region ~~{8}~~ to be collected into the light-guiding means ~~{7}~~.

10. (Currently Amended) ~~A The~~ signal transmission system ~~{1}~~ as claimed in claim 9, characterized in that the at least one light entry region of the light-guiding means ~~{7}~~ ~~are arranged to be~~ is planar in form ~~in their light entry region {8}~~.

11. (Currently Amended) A garment ~~{15}~~ for a signal transmission system ~~{1}~~, characterized in that the garment ~~{15}~~ ~~has comprises~~ light-guiding means ~~{7}~~ ~~that are able to be coupled for~~ optically coupling to a signal source device ~~{2}~~ and a signal sink device ~~{4}~~ and ~~that are arranged to transmit, said light-guiding means transmitting~~ an optical signal ~~{S}~~ representing a transmission signal generated by the signal source device ~~{2}~~ to the signal sink device.

12. (Cancelled).

13. (Currently Amended) ~~A signal transmission~~The method as claimed in claim ~~12~~15, characterized in that the optical system ~~{S}~~ ~~is transmitted from the signal source device {2}~~ signal is optically coupled to the light-guiding means ~~{7}~~ light guide via a first air-gap ~~{10}~~.

14. (Currently Amended) ~~A signal transmission~~The method as claimed in claim ~~12~~15, characterized in that the optical signal ~~(6)~~ ~~is transmitted from the light guiding means (7) to the signal sink device (4)~~is optically coupled to the light receiving means via a second air-gap ~~(11)~~.

15. (New) A method for transmitting a transmission signal from a signal source device to a signal sink device, the transmission signal being generated by the signal source device and processed by the signal sink device, said method comprising the steps of:

converting the transmission signal generated by the signal source device into an optical signal;

optically coupling the optical signal to a light entry region of a light guide;

transmitting the optical signal through the light guide from the light entry region to a light exit region;

optically coupling light receiving means to the light exit region of the light guide to receive the transmitted optical signal;

converting the received optical signal to a received transmission signal; and

applying the received transmission signal to the signal sink device for processing.

